

IV. REMARKS

1. Claims 1, 2, 4, 7, 8, 10, 15, 16, 18-22, and 24 are amended.
2. The abstract is added.

Claims 1, 3, 6, 15 and 17 are rejected under 35 U.S.C. 102 (a) as being anticipated by the article of Reucher et al. "Spatial Filtering of Noninvasive Multi-electrode EMG Part 1 - Introduction to Measuring Technique and Applications".

Claims 1 and 15 have been amended to recite that the electrically active region of the subject's muscle comprises a center and the weighting function or filter contains correction features for the relative locations of the center of the electrically active region and the electrodes. This is not disclosed or suggested by Reucher et al.

The article of Reucher et al. "Spatial Filtering of Noninvasive Multi-electrode EMG Part 1 - Introduction to Measuring Technique and Applications" describes spatial filtering of signals from several recording electrodes which are combined to form one output signal channel. The spatial filter characteristic is determined by weighting factors and the geometrical arrangement of the electrodes. With the technique of Reucher et al. the impulses in the weighted signals can be more easily recognized to better calculate, for example, the muscular conductivity velocity.

Although the article of Reucher et al. provides many examples of weighting factors, there is no teaching that the resulting weighting function or filter contains correction features for the relative locations of the center of the electrically active region and the electrodes.

It is respectfully submitted that, in the case of Reucher et al., it is not relevant to determine the center of the electrically active region of the subject's muscle to calculate muscular conductivity velocity for the following reasons:

- Reucher et al. studies a single motor unit with a longitudinal electrode configuration extending in the same direction as the action potential conducts along the muscle.

Therefore, the weighting functions described by Reucher et al. are intended to enhance local excitation processes (see page 104, first sentence of the Section entitled "Discussion"). In Reucher et al., there is no need to use the weighting functions to, for example, describe or correct electrode-to-muscle distance filtering and cancellation at the center of the electrically active region. These are fundamental differences which are not interchangeable.

Thus, claims 1 and 15 are not anticipated by Reucher et al. Claims 3, 6, and 17 should be allowable at least by reason of their respective dependencies.

3. Claims 1 and 15 stand rejected as being anticipated by Hogrel et al. (WO 99/32032) under 35 U.S.C. § 102 (b).

It is noted that Hogrel et al. is not prior art for purposes of 35 U.S.C. § 102 (b). Since Hogrel et al. was filed prior to November 29, 2000 it is only prior art as of its publication date. (M.P.E.P. § 1857.01). Its publication date is July 1, 1999. Applicant's effective priority date is July 7, 1999. Thus, Hogrel et al. is not prior for purposes of 35 U.S.C. § 102 (b).

However, Hogrel et al. does not disclose or suggest each feature of Applicant's invention.

Hogrel et al. suggest calculation of a speed of propagation of a muscular action potential by means of EMG signals obtained through a group of electrodes and a spectral filtering and amplification of the signals from the electrodes followed by a weighted summation for spatially filtering these signals.

Hogrel et al. fails to teach a weighting function containing correction features for the relative locations of the center of the electrically active region and the electrodes since it is not relevant to determine the center of the electrically active region of the subject's muscle to calculate muscular conductivity velocity. Thus, claims 1 and 15 should be allowable.

4. Claims 2, 4, 5, 7-14, 16 and 18-28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Accordingly, the following claims, including the claims dependent thereupon, are now believed to be allowable:

- Amended claim 2 resulting from a combination of former claims 1 and 2;
- Amended claim 4 resulting from a combination of former claims 1 and 4;
- Amended claim 7 resulting from a combination of former claims 1 and 7;
- Amended claim 8 resulting from a combination of former claims 1 and 8;
- Amended claim 16 resulting from a combination of former claims 15 and 16;
- Amended claim 18 resulting from a combination of former claims 15 and 18;
- Amended claim 19 resulting from a combination of former claims 15 and 19;
- Amended claim 20 resulting from a combination of former claims 15 and 20;
- Amended claim 21 resulting from a combination of former claims 15 and 21; and
- Amended claim 22 resulting from a combination of former claims 15 and 22.

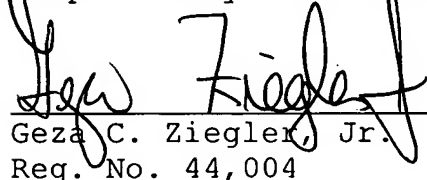
Finally, claims 10 and 24 have been amended to correct spelling errors in the terms "subtraction" and "comparison".

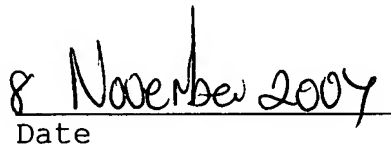
In light of the submission made herein, Applicant believes that the present patent application is in condition for allowance and an early notice to that effect is respectfully solicited.

For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record, and are in proper form for allowance. Accordingly, favorable reconsideration and allowance is respectfully requested. Should any unresolved issues remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

A check in the amount of \$1,222.00 is enclosed for a two-month extension of time and the additional claims fee. The Commissioner is hereby authorized to charge payment for any fees associated with this communication or credit any over payment to Deposit Account No. 16-1350.

Respectfully submitted,


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